

ABSTRACT

This invention is directed to a process for preparing an exfoliated, high I.V. polymer-platelet particle nanocomposite comprising the steps of: (i) melt mixing platelet particles with a matrix polymer-compatible oligomeric resin to form an oligomeric resin-platelet particle composite, and (ii) mixing the oligomeric resin-platelet particle composite with a high molecular weight matrix polymer, thereby increasing the molecular weight of the oligomeric resin-platelet particle composite and producing an exfoliated, high I.V. polymer nanocomposite material. The invention also is directed to a nanocomposite material produced by the process, products produced from the nanocomposite material, and a nanocomposite prepared from an oligomeric resin-platelet particle precursor composite.